III. Closure of a Wound of the Femoral Vein with Catgut Sutures. By FREDERICK LANGE, M. D. (New York). In an operation for the extirpation of a malignant tumor in the groin, the femoral vein was accidentally wounded immediately below Poupart's ligament at the entrance of the saphenous vein. The edges of the wounded vein were drawn together with catgut sutures, effecting a complete and perfect closure of the wound, without occluding the lumen of the vein. The loss of blood was not considerable. A lateral ligature did not hold in this case, the walls of the vessel being thickened and resistant.—*N. Y. Surgical Society*, Nov. 22, 1886.

JAMES E. PILCHER (U. S. Army).

ABDOMEN.

Contributions to the Surgery of the Abdominal Organs. By Dr. OSCAR WITZEL, of Bonn. [Continued from ANNALS OF SURGERY, Vol. I., p. 362].

RETROPERITONEAL TUMORS. The author bases his observations upon five cases of retroperitoneal tumors occurring in patients admitted to the Surgical Clinic of Bonn and operated upon by Prof. Trendelenburg or his assistants. The cases are in short as follows:

I. *Retroperitoneal sarcoma of left side. Extirpation by means of lateral laparotomy, combined with extirpation of the normal spleen. Death after several months.*

Woman, æt. 44, first noticed abdominal tumor one year before admission. In the course of nine months it had grown to the size of an apple—and had increased more rapidly of late. The tumor appeared large, round, with uneven surface, of great consistency, yet fluctuating at certain points. It was not adherent to the abdominal skin, and was laterally movable. In the ninth intercostal space in the axillary line a retraction of skin was noticeable over the spleen. Percussion dull. Colon could be made out centrally to the tumor. Urine normal. Diagnosis was made of retroperitoneal tumor.

Operation: 16 July, 1882. Incision at external margin of rectus. Peritoneum divided. Colon freed from adhesions, the mesocolon descendens being partially divided. The tail of the pancreas being

partly imbedded in the tumor, ligated and cut off. In freeing the spleen hæmorrhage occurred, for which ligatures were applied—and it was subsequently found that the blood supply to the spleen had been cut off. The spleen was therefore removed together with the tumor. Suture of wound. No peritonitis. Stitch-hole abscesses. Good improvement for the first three weeks; after that decline. Death after three months, with symptoms of anæmia (hydræmia). No tumor of lymphatic or thyroid glands. No post-mortem.

Tumor weighed five pounds, lobulated, without fluctuating points, microscopically consisting of spindle cells only.

In his epicritical remarks, the author states his belief that the tumor did not originate from the pancreas, but takes it for a neoplasm originating from the connective tissue of the posterior wall of the retroperitoneal cavity (fascial sarcoma) at a point situated near the pancreas, the vessel of the spleen having been surrounded and drawn into the growth. In this he follows Lobstein, who, however, believes in the lymphatic origin of these tumors. He further refers to Virchow and Koenig.

II. *Diagnostic incision for right lateral abdominal tumor. Tumor sutured to incision-wound. Incision of tumor, which proved to be a round-celled sarcoma. Suture of wound. Dismissal with wound healed.*

Child, $2^1/_2$ years of age. Tumor situated below the liver, reaching to median line and to umbilicus, not to be distinguished from right lobe of liver, resistant to touch, with ill-marked fluctuation, and presenting a smooth, round surface; the whole apparently originating from the lower surface of the liver with a broad base. Colon apparently centrally situated. Diagnostic incision having been made for echinococcus, the tumor was stitched to the wound, incision made and the substance of the tumor microscopically examined, which proved to be a round-celled sarcoma. Excision was therefore not thought advisable; the wound was sutured and healed by first intention, the child being dismissed on eighth day.

III. *Tumor of right kidney. Polypous myo-sarcoma of wall of renal calyx. Extirpation after lateral abdominal incision. Death on sixth day.*

Girl, æt. 4, healthy up to six weeks before admission, when abdomen began to swell. Tumor could be felt on right side of abdomen, reaching to median line and to symphysis, but apparently continuing still further to left side beneath the intestinal coils. Signs of ascites well marked. Surface of tumor uneven; no fluctuation. Percussion of tumor dull, continuous with liver-dulness, which reached to third rib.

Urine could not be collected for measurement of quantity; contained no albumen, nor blood, etc.

Operation, August 29, 1885: Oblique incision letting out ascitic fluid. Tumor found centrally adherent to colon, above and externally to omentum. Omentum freed and ligated; peritoneal covering incised; ligature of large vessels, and enucleation of tumor. Ureter found, ligated and cut. Considerable venous hæmorrhage on freeing the tumor from the liver. A second tumor on left side of spinal column, the size of a lemon, was now found, which could not be removed on account of its relation to the aorta and vena cava. The wound was therefore closed after toilet of the peritoneum.

Child rallied towards evening—was restless the following days. Died on sixth day in collapse, preceded by a temperature of 39.°

Post-mortem examination revealed several large, round tumors the size of apples situated in front of the vertebral column, being the enlarged lymphatic glands.

The removed tumor was found to be a myosarcoma striocellulare, the cystic enlargement of the calyx occupying the greater part of the tumor. A more detailed account is promised by Prof. Ribbert in Virchow's Archives.

IV. *Adeno-carcinoma of right kidney. Removal by means of lateral abdominal incision. Recovery.*

Boy, æt. 9, suffering from a tumor in right side of abdomen, which had first been noticed four years previously. No pain or disturbance of function of abdominal organs had ever existed. But loss of strength had been observed for the last nine months.

On admission the boy appeared pale and somewhat lean, but was not inconvenienced by the tumor, otherwise than that respiration was

frequent. Tumor could not be differentiated by percussion from the liver, dulness reaching to fourth rib above; and it partook of its respiratory movements. Palpation revealed a round, hard body of irregular surface, without fluctuation, reaching downwards into the iliac fossa and to the median line. Injection of water per anum brought the colon out into relief on the right side in front of the tumor.

Diagnosis of renal tumor having being made and extirpation considered indicated, the operation was performed on November 16, 1885. Laparotomy, vertical incision 15 cm. in length, between the axillary and mamillary line. Adhesion with liver divided and ligated. Incision of peritoneal covering of tumor laterally to the colon. Enucleation and eventration of tumor. Ligation of vessels leading to it, and of ureter. Toilet of abdominal cavity. Suture of wound.

Temperature the third evening 38.2° C. Good recovery. Secretion of urine not altered by operation.

Extirpated tumor weighed 2,000 grams, measured 15 cm. in diameter, and proved to be an adeno-carcinoma.

V. *Cyst of Pancreas* (given as appendix). Woman, æt. 23, had noticed gradual development of a tumor in left superior region of abdomen for eight months.

On admission a tumor the size of a man's head was found in the meso-gastric and left hypochondriac region, partaking of the movements of the diaphragm, with smooth surface and well-marked fluctuation. The colon descendens was displaced to the middle line, the stomach was above the tumor.

Operation May 10, 1886. Incision of abdomen 15 cm. in length in left side. The small omentum found covering tumor. Spleen and left kidney found normal. Tapping emptied 2¼ litres of transparent brownish liquid out of the cyst, after which incision was made into the cyst, and its edges stitched to the edges of the abdominal wound. A fistula was thus established which had closed by the 20th of June.

The fluid removed reacted alkaline, was albuminous, and contained mucin; it did not, however, produce emulsion of fatty substances, nor did it possess digestive properties.

In a short introductory preamble the author alludes to the difference

existing between retro-peritoneal tumors and those developing in the free folds of the peritoneum between the abdominal viscera. The former are more rare; not so movable, appearing, on the contrary, fastened to the posterior parts by a more or less wide base, and displacing the organs of the abdominal cavity in a peculiar and altogether typical manner. The operations for removal of simple abdominal tumors can be mostly performed without causing an extensive lesion of the peritoneum, while removal of the retro-peritoneal tumors entails very extensive interference, if not resection, of the peritoneum, and moreover establishes a large cavity, in which secretions may stagnate; the technical aspect of the latter operation is rendered more difficult and important, on account of the presence of the large vessels of the retro-peritoneal region, indiscriminate ligating of which may cause the death of one or more of the abdominal organs.

Two kinds of retro-peritoneal tumors may be distinguished—the median ones, which originate from the region of the spinal column, and from the root of the mesentery, and the lateral ones, originating in the cavity on either side of the spine.

The former ones rarely grow towards the front, unfolding the duplications of the mesentery and surrounding the loops of small intestine in their anterior aspect. These tumors are very difficult to remove, because the intestines have frequently to be exsected, and the blood-supply is derived from behind. The majority of the median tumors grow laterally, as do especially the lateral ones, and in this case the colon always bears a typical and diagnostically very important relation to the tumor, it being situated at first laterally, then directly in front and finally centrally to the tumor. These tumors can be more easily removed than the median ones, especially if their peritoneal covering is widely incised. Resection of the colon is scarcely ever necessary.

In none of the four cases, in which tumor of the kidney was present, could the diagnosis of kidney-lesion be made with certainty before operation; a very usual occurrence in such cases.

After further remarks of a general nature, the author turns to consider the median retro-peritoneal tumors more especially, and having no cases of his own of this kind, refers to five or more already published ones.

In many cases where such tumors cannot be differentiated from ovarial and other abdominal tumors, the presence of œdema of the lower extremities resulting from pressure upon the vena cava, as well as obstruction occurring more or less suddenly in the intestinal tract, are symptoms of great value for diagnosis.

Regarding the operative interference with these tumors, the author is in favor of not attempting removal too speedily. In view of de Jong's statistics the author does not consider lumbar nephrectomy less perilous than that by lateral abdominal incision, which removes another reason for early operation. On the other hand, the colon can be much more easily preserved intact with reference to its blood-supply, if the incision through the peritoneal covering of the tumor be made laterally to it, at a time when the colon has moved to the inner side—or, in other words, when the tumor has grown to a considerable size.—*Deutsch. Zeitschr. f. Chirurgie.* Vol. 25, Hft. 3. Aug. 25, 1886.

W. W. VAN ARSDALE (New York).

EXTREMITIES.

I. Reunion of Severed Digits. This subject has recently received considerable attention and a number of new cases have been recorded. For convenience of reference they are tabulated below.